



Meals for Good: An innovative community project to provide healthy meals to children in early care and education programs through food bank catering

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ABSTRACT

Innovative approaches to childhood obesity prevention are warranted in early care and education (ECE) settings, since intervening early among youth is recommended to promote and maintain healthy behaviors. The objective of the *Meals for Good* pilot was to explore feasibility of implementing a food bank-based catering model to ECE programs to provide more nutritious meals, compared to meals brought from home (a parent-prepared model). In 2014–2015, a 12-month project was implemented by a food bank in central Florida in four privately-owned ECE programs. An explanatory sequential design of a mixed-methods evaluation approach was utilized, including a pre-post menu analysis comparing parent-prepared meals to the catered meals, and stakeholder interviews to determine benefits and barriers. The menu analysis of lunches showed daily reductions in calories, fat, and saturated fat, but an increase in sodium in catered meals when compared to parent-prepared meals. Interviews with ECE directors, teachers, parents, and food bank project staff, identified several benefits of the catered meals, including healthfulness of meals, convenience to parents, and the ECE program's ability to market this meal service. Barriers of the catered meals included the increased cost to parents, transportation and delivery logistics, and change from a 5 to a 2-week menu cycle during summer food service. This pilot demonstrated potential feasibility of a food bank-ECE program partnership, by capitalizing on the food bank's existing facilities and culinary programming, and interest in implementing strategies focused on younger children. The food bank has since leveraged lessons learned and expanded to additional ECE programs.

1. Introduction

Obesity prevalence of approximately 17% has persisted among 2–19 years olds in the United States (U.S.) since 2003, with an increase in children from low-income households (Cunningham et al., 2014; Korenman et al., 2013; Wang and Zhang, 2006; World Health Organization, 2016). Overweight children who enter kindergarten are four times more likely to be obese as adolescents and childhood obesity has been shown to track into adulthood (Guo et al., 2002; Wardle et al., 2001). Research suggests that birth to five years is a critical period for development of health behaviors; namely, improved diet and increased physical activity, which could help reduce risk for obesity and chronic disease (National Center for Education Statistics, 2009). Accordingly, innovative strategies for childhood obesity prevention are warranted,

specifically those strategies that simultaneously address an increase in healthy food access (Institute of Medicine, 2012).

Early care and education (ECE) programs, that provide nurturing care, support for development, and learning experiences for children aged five and younger, are an ideal setting for obesity prevention interventions. ECE programs have wide reach, with 60% of children birth to five spending an average of 30 h per week in an ECE program (Guo et al., 2002; Ward et al., 2013; Wardle et al., 2001). Innovative approaches to obesity prevention among young children using non-traditional partners, such as food banks, that already have commercial kitchens and the infrastructure in place to prepare meals, could be paired with ECE settings to provide healthful food options to a wider audience of ECE programs.

Food banks have typically been viewed as a venue to provide

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emergency food assistance to help alleviate hunger and food insecurity. However, in order to impact diet among populations they serve, food banks are shifting services to more upstream approaches that address food insecurity and root causes or determinants. These changes include offering more healthful foods to pantries (e.g., fresh fruits and vegetables) and providing nutrition education to consumers (Seligman et al., 2015). Food banks are also venturing towards innovation, including creating grocery stores and community outreach efforts to promote culinary job training, and fostering education on hunger awareness (Birch et al., 2007).

Second Harvest Food Bank of Central Florida (Second Harvest) is located in Orlando, Florida. Second Harvest collects and distributes grocery products to over 550 non-profit feeding programs in six counties and is equipped with a professional kitchen that is the centerpiece of their Community Kitchen Program. In addition to the focus on community and culinary skill building, Second Harvest is also committed to promoting programs among children birth to five. These foci, coupled with Second Harvest's kitchen facilities, culinary program, and experience catering summer meal programs led to the development of the *Meals for Good Pilot*. The project focused on production, delivery, and sustainability of providing more healthful food to ECE programs. The purpose of the evaluation was to assess the feasibility of implementing a food bank-based catering model to ECE settings, in which the lunches, beverages, and snacks provided aligned with meal patterns recommended in the Child and Adult Care Food Program (CACFP) for child care facilities (Korenman et al., 2013). It should be noted that the food used in the *Meals for Good Pilot*, as well as other summer meal catering, was purchased, and not donated.

2. Methods

2.1.1. Pilot design

The *Meals for Good* model consisted of two phases: planning and implementation. See Fig. 1, a comprehensive flowchart describing the timeline, various phases and data collection efforts for this project. In August 2014, Second Harvest began the planning phase by gauging interest in the catering model among local ECE program directors, researching Florida's Child Care Food Program (CCFP; Florida's version of CACFP) rules and regulations, planning age-appropriate healthy menus, and determining the most efficient meal transportation and delivery options.

Four ECE programs that previously operated on a parent-prepared food model, located within a 20-mile radius of Second Harvest, were recruited into the implementation phase. These programs were introduced to the project through their participation in another intervention aimed at improving nutrition and physical activity related policies and practices in ECE settings. Once recruited, materials were provided for the programs to share with parents and activities were offered onsite, such as chef visits and taste-tests to introduce catered meals to children and staff, as well as inform menu development. Since one of the four ECE programs started the program before the baseline assessment could be completed, they were deemed ineligible to participate in the *Meals for Good* pilot evaluation; accordingly, the assessment included three of the four programs originally recruited.

The implementation phase began with meal production and delivery in January 2015. At this time, Second Harvest was not a Florida CCFP approved caterer for the academic year. Therefore, the pilot project was implemented as cash-pay only; parents paid a daily fee of \$5.50 per child, which covered four daily components (i.e., a morning snack, lunch, afternoon snack, and milk). Each program could opt out of some components, enroll only interested families (not the entire program), and select an individually packaged or family style meal option. These variances resulted in a different weekly cost for each program.

Initially, Second Harvest offered a 5-week menu cycle, which included both hot and cold items. The food bank-based catering model continued through August 2015, accompanied by a tracking and feedback loop

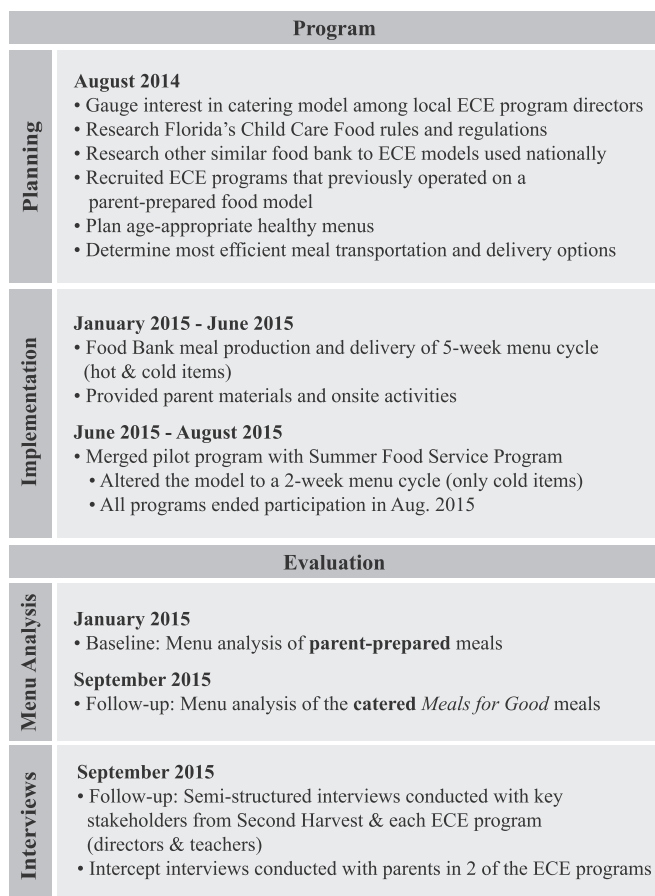


Fig. 1. Flowchart of events and dates during the pilot and implementation phase of the project, as well as data collection efforts during the evaluation.

between Second Harvest and the ECE programs. However, a change occurred in June 2015, when Second Harvest merged the pilot program with their Florida Department of Agriculture and Consumer Services supported Summer Food Service Program, which altered the model to a 2-week menu cycle. The new summer menu cycle consisted of only cold items to accommodate the volume of meals required of the Summer Food Service Program, an increase of approximately 75 meals per day to 2500 meals per day. Merging the pilot with the summer program allowed meals to be free in cost for two of the three programs because they qualified as a Summer Food Service Program site, meaning they received federal reimbursements for serving healthy meals to children in low-income areas. Although an updated version of the *Meals for Good* project was offered to programs for the Fall of 2015, including a 5-week hot and cold meal option, all three programs decided to end participation in August 2015, due to the program's inability to secure the 40-child minimum required by Second Harvest to enroll in the Fall meal service.

An explanatory sequential design of a mixed methods pre-post design was used to first assess the effect of the *Meals for Good* project on the healthfulness of the meals served and then to describe how the food bank-based catering model was implemented in participating ECE programs. The study protocol was approved by the University of Nebraska Medical Center's Institutional Review Board.

2.1.2. Menu analysis

An analysis of parent-prepared lunches was conducted at baseline in January 2015 to determine the nutrient content of food items brought from home prior to the project start date. Food items provided by the parents consisted mainly of convenience foods, such as *Lunchables*®, peanut butter and jelly sandwiches, packaged crackers,

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